

**Abstract**

The invention of this application provides a cell population with identification codes, which is a population of cells that can be distinguished from one another based on a difference in luminescent signals emitted by luminescent substances, wherein the difference in the luminescent signals is caused by either or both (a) 2 or more different luminescent properties, and (b) 2 or more different luminescent sites. This cell population with identification codes can be conveniently prepared without a resort to a special apparatus and can be applied to either a solid phase system or a liquid phase system in mass screening, and moreover, can be used for a screening for various properties of cells such as the expression of a target protein.